

REMARKS

This Amendment is in response to the outstanding final Office Action dated June 25, 2009. Claims 1 and 17 have been amended to better define Applicants' invention. Support for the amendments to claims 1 and 17 can be found in the specification at least on page 7 and in Figures 1-5. No new matter is added.

The claims now pending in the application are 1-34. Applicant respectfully requests withdrawal of the outstanding rejections and allowance of the claims.

Response to Rejection of Claims 1-34 Under 35 U.S.C. §103(a)

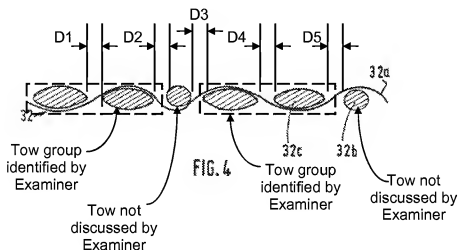
In the outstanding Office Action, claims 1-34 were rejected under 35 U.S.C. §103(a) as being unpatentable over Bompard et al. (U.S. No. 5,484,642) in view of Vane (U.S. No. 5,445,693). These rejections are respectfully traversed.

As amended, independent claim 1 provides a fabric including a plurality of substantially parallel, aligned tows with every parallel aligned tow arranged in one of a plurality of tow groups. Each of the tow groups has one or more tows. The spacing between tows in a tow group is less than the spacing between juxtaposed tow groups. Each tow has a longitudinal axis. The longitudinal axes of the tows are in a coplanar relationship.

The Examiner asserts the Bompard et al. reference discloses the structure and all of the limitations of Applicant's independent claim 1 except for the limitation that the fiber elements are tows. However, the Bompard et al. reference does not disclose the fabric as claimed in Applicant's amended independent claim 1 for several reasons.

The Bompard et al. reference does not teach a fabric having parallel aligned tows with every parallel aligned tow arranged in a tow group wherein the spacing between tows in a tow group is less than the spacing between

juxtaposed tow groups. The Examiner asserts Figure 4 of the Bompard et al. reference discloses the spacing between the fiber elements (32c) within a tow group having a spacing that is less than the spacing between adjacent element groups. Applicant asserts Fig. 4 of the Bompard et al. reference, a portion of which is shown below, shows adjacent threads (32b and 32c) of the sliver 32.



Applicants submit that if every thread (32b or 32c) is combined into a tow group, the resulting distances between juxtaposed tow groups D1-D5 appears to be approximately the same.

Further, Bompard et al. is silent as to the spacing of the tows or the tow groups. Accordingly, there is simply no disclosure in the Bompard et al. reference of a fabric having parallel, aligned tows with every parallel aligned tow arranged in one of a plurality of tow groups, wherein the spacing between tows in a tow group is less than the spacing between juxtaposed tow groups as claimed in Applicants' independent claim 1.

To overcome the deficiencies in the Bompard et al. reference, the Examiner relies on the Vane reference. The Examiner asserts the Vane reference teaches a reinforcing fabric which is formed from tows, yarns or threads.

However, the Vane references also fails to show a fabric having tows with every parallel aligned tow arranged in a tow group, wherein the spacing

between tows in a tow group is less than the spacing between juxtaposed tow groups as claimed in Applicants' independent claim 1, and therefore cannot remedy this deficiency.

It is well established that all claim limitations must be considered in judging the patentability of a claim against the prior art. As set forth in the MPEP, at least at §2143.03, in order to establish prima facie obviousness of a claimed invention, all of the claimed limitations must be considered against the prior art, citing *In Re Wilson*, 424 F.2d 1382, 165 USPQ 494 (CCPA 1970).

Moreover, as noted in a previous response, Applicants submit that Fig. 4 of Bompard teaches a woven fabric having a two-dimensional plain weave pattern. Applicants submit that even if the teaching of Bompard was modified to incorporate tows, as taught by Vane, every tow would still be crimped as a direct result of this weaving pattern. Indeed, Vane teaches that such a weaving pattern would be undesirable, since Vane teaches "in woven mats the weft and warp are crimped where they intersect one another which reduces the strength thereof, and that they have a limited shelf life" (column 1, lines 22-25) Applicants therefore submit that one of ordinary skill in the art would not look to combine the teaching of Bompard's Figure 4 with the teaching of Vane.

In contrast, Applicants' invention as recited in claim 1 includes coplanar tows arranged in tow groups "wherein the spacing between tows in a tow group is less than the spacing between juxtaposed tow groups." Such an arrangement advantageously reduces or entirely eliminates crimping, while simultaneously providing flow channels that permit resin to flow evenly and quickly through the fabric. This in turn results in shorter processing time and a more consistent resin distribution, decreasing the likelihood of resin starved areas within the cured laminate.

In light of the above, Applicants submit that independent claim 1 is not obvious under 35 U.S.C. §103(a) in view of the Bompard et al. and Vane

references, and that independent claim 1 is in condition for allowance. Dependent claims 2-16 depend on independent claim 1 and for at least this reason, are also patentable.

Moreover, Applicants submit that, as noted above, Figure 4 of Bompard et al. fails to teach or suggest a fabric that is crimp-free, as recited in claims 8 and 19. Applicants therefore submit that claims 8 and 19 are in condition for allowance in their own right.

Further, the Examiner asserts it would have been obvious to choose a specific number of tows and space the tows with specific spacing in order to bring about optimal fabric strength. However, the Examiner has not identified any disclosures in the cited references, nor other prior art that discloses or makes obvious the specific number of tows and/or tow spacing. In particular neither reference teaches that the specific number of tows or spacing of tows within a tow group are result-effective variables as to fabric strength. Only result-effective variables can be optimized. One cannot optimize a property that is not taught. Applicants therefore submit that claims 2, 3, 7 and 27 are in condition for allowance in their own right.

Similarly, as currently amended, independent claim 17 provides a method of making a fabric having a plurality of substantially parallel, aligned tows and arranging all of the tows in tow groups. Each of the tow groups has one or more tows. The spacing between tows in a tow group is less than the spacing between juxtaposed tow groups. Each tow has a longitudinal axis. The longitudinal axes of the tows are in a coplanar relationship.

As discussed above, the Examiner asserts the combination of the Bompard et al. and Vane references disclose the structure and all of the limitations of Applicants' independent claim 17. However, for the same reasons as discussed above, neither the Bompard et al. nor Vane references, taken singularly or in combination, disclose the method for making the fabric as claimed in Applicant's independent claim 17.

Dependent claims 18-34 depend on independent claim 17 and for at least this reason, are also patentable.

Conclusion

In view of the above amendments and remarks, Applicants have shown that the claims are in proper form for allowance, and the invention, as defined in the claims, is not taught nor disclosed by the applied references. Accordingly, Applicants respectfully requests reconsideration and withdrawal of the rejections of record, and allowance of all claims.

Respectfully submitted,

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